Comments on Notice of Proposed Rulemaking
Docket 07-287, February 4, 2008
DataFM, Inc.

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In re	)	
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The Commercial Mobile Alert System	)	PS Docket No. 07-287
	)	
To: The Commission	)	

COMMENTS ON NOTICE OF PROPOSED RULEMAKING

DataFM, Inc. ("DataFM"), by its counsel, and pursuant to FCC Rule Section 1.415, submits its Comments on the Commission's Notice of Proposed Rulemaking, FCC 07-214 (December 14, 2007) ("NPRM") in this proceeding. In support, the following is shown.

I. Introduction and summary.

The NPRM seeks comment on the recommendations of the Commercial Mobile Service Alert Advisory Committee ("CMSAAC") and other matters relating to the implementation of a comprehensive emergency alert system. Pursuant to Public Law 109-347,[1] the Commission is obligated to adopt technical standard, protocols, procedures and technical requirements based on the CMSAAC October 12, 2007 recommendations to enable commercial mobile service ("CMS") alerting capability for

[1]Security and Accountability For Every Port Act of 2006, Title VI-Commercial Mobile Service Alerts (hereinafter "WARN Act").

CMS providers within 180 days from the date the CMSAAC submitted its recommendations. Within 90 days thereafter, the Commission is required to complete a proceeding to require non-commercial educational and public broadcast licensees and permittees to install equipment to enable the distribution of geographically targeted alerts by CMS providers that have elected to transmit emergency alerts.

Data FM has a keen and unique interest in this proceeding because it is currently operating an emergency alert system with capabilities far superior to and which can be integrated with the proposed CMS based system. The DataFM system is a multi-use, point to multi-point communication system which provides early warnings and alerts that are both geographic and demographic specific. In fact, it can provide messages down to the household level, essentially as a point to point system. DataFM uses the existing ubiquitous FM radio infrastructure to provide personalized notification of appropriate action necessary to mitigate loss of life and property. *See generally* www.dataFM.com.

DataFM endorses the Commission's goal to ensure that all Americans have the capability to receive timely and accurate alerts, warnings and critical information concerning impending disasters and other emergencies irrespective of technology. Although the CMSAAC proposals are a step in the right direction, there are inherent limitations in a warning alert system based solely on CMS.

Additional provisions need to be made to provide for the most robust and ubiquitous warning system. DataFM is currently operating its system using addressable RDS technology and FM broadcast spectrum. The system enjoys substantial advantages over a CMS based system. In adopting technical standards in this rulemaking the Commission should strive to accommodate technologies like DataFM's, which offer the public such enhanced features as point to multipoint transmission, demographic addressability and extended message capability. Specifically, DataFM requests the Commission to require the inclusion of an RDS chip in all newly marketed cellular telephones and require non-commercial educational FM radio stations to install the necessary equipment to broadcast RDS based alert messages.

II. DataFM's interest in this proceeding.

DataFM has a keen and unique interest in this proceeding as it is currently operating an emergency alert system with capacities far superior to and which is capable of integration with the proposed CMS based system. The DataFM system is a multi-use, point to multi-point communication system which provides early warnings that are both geographic and demographic specific. It can provide warnings and messages down to the household level. DataFM uses the existing ubiquitous FM radio infrastructure to provide personalized notification of

appropriate action necessary to mitigate loss of life and property. Because it uses the fully deployed FM broadcast service as its transmission medium, the DataFM system enjoys multiple redundancy. The DataFM system can be employed in any potential emergency situation. The DataFM system is cost effective to employ and could be deployed nationwide within weeks of adoption. The DataFM system allows the communication of a message within seconds to an unlimited number of recipients in real time. The DataFM system further has the capability to use VHF push-to-talk as a backup.[2]

The DataFM communications system utilizes a mix of new[3] and existing technology to accomplish its mission. When a crisis occurs, the authorized person at

[2]In DataFM's view, a comprehensive mobile alerting system requires the ability to reach people on the go in a short time frame. Although the WARN Act and this proceeding concentrate on CMS technology, it is important to understand that a broadcast radio receiver is mobile and FM radio is available virtually everywhere in the country. It is also important to keep in mind where persons may be when an emergency occurs. More than 90 percent of the time, persons are in a building. That means that if you reach the building you reach the people in it. It is important not to be solely focused on new personal communications devices so as to miss the obvious point that persons are generally somewhere inside a building of some kind and have access to a radio within that building. Moreover, the addressable RDS technology DataFM uses can be easily and inexpensively integrated into existing and future personal communications devices, allowing such devices to take advantage of the RDS emergency alert capabilities without infringing on the carriers' spectrum needs. There is also the possibility of being in an automobile, and virtually every automobile is equipped with a radio. If the goal is to make sure that service is provided to remote places, DataFM's view is that FM achieves that goal because FM is fully deployed throughout the country.

[3]DataFM hold two patents on its alerting system.

the control center inputs an alert message addressed to designated receivers into the system via an Internet computer connection. The message is relayed from the DataFM control center to a satellite uplink. The satellite relays the message to local FM transmitters which then send the message to the designated receivers on the ground. The receivers are pre-coded to respond to messages containing one or more specific code prefixes. Therefore, the right person will receive the right messages.

The system is extremely cost effective. Transmitters can be installed in conjunction with the existing FM broadcast service infrastructure. Individual receivers can be mass produced for the approximate cost of an FM radio. Moreover, if addressable RDS chips were to be placed in cellular and wireline telephone phones and other electronic devices to receive the signal, the marginal cost would be negligible.

The DataFM system has been proven in several environments. The Georgia Division of Public Health ("GDPH") has installed the system in every hospital in Georgia, and hospitals bordering Georgia in South Carolina, Tennessee, Florida, and Alabama. Although the primary function of DataFM for the GDPH is notification in the event of a pandemic, in cooperation with the Centers for Disease Control in Atlanta, it is also used to communicate geographically and

demographically in the event of local or regional disasters. The system is also employed in the 22 counties that make up the Atlanta Metropolitan Medical Response System. DataFM is used to coordinate all metropolitan medical facilities in the event of a terrorist attack or other disaster.

The system in 2006 was installed in the Island of Antigua as a tsunami warning system, the first in the Caribbean. Is it also used for coordination of all emergency medical responders on the island. On November 29, 2007, an earthquake struck the Caribbean. On the island of Antigua the bulk of cell phone service, wireline telephone service, cable TV service, electrical power, Internet service, and television service was rendered inoperable. The Director of the National Office of Disaster Services of Antigua and Barbuda, Mr. Philmore Mullin, was in the same predicament that all other Caribbean island officials were in with one exception: his country was the beneficiary of a donation from the Anglican Church. That donation was for a communications and emergency warning system operated by DataFM. DataFM receivers were placed in public buildings, police stations, fire stations, and other emergency responder locations. As a result, Mr. Mullin was able to send messages using the FM broadcast band and his push-to-talk wireless two way system to communicate geographically and demographically with various emergency personnel. This gave them

information that they needed to properly respond to the emergencies then occurring on the islands.

The system is also in all Atlanta, Georgia public schools . This gives the authorities the ability to send emergency and non-emergency messages to each public school in seconds. This capability became critical one day in March of 2005. When an escaped fugitive went on a shooting spree in downtown Atlanta, school officials were able to lock down every public school in the city for the duration of the emergency using the DataFM system.[4]

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[4]This widely reported incident resulted in the death of five persons and the injury of two persons when Brian Nichols, a defendant being arraigned in the Fulton County courthouse in Atlanta, wrestled a gun away from his guard in an elevator and shot her. He then went into the courtroom and killed both the superior court judge and the court reporter. He then fatally shot another guard as he was leaving the courthouse. He ran across the street to a parking garage and assaulted a reporter. He then walked into the subway, traveled to a neighborhood north of the city, and walked

into a house owned by a Federal agent, killed him and took his truck. He then ended up in the apartment of a woman whom he kept hostage for several hours, who was able to convinced him to surrender. Once security for the Atlanta school system was notified of the emergency, it sent an alert message through DataFM and within one minute all the downtown Atlanta public schools were locked down to avoid the potential disaster of an armed fugitive gaining entrance to one of the schools.

III. Comments on the CMSAAC recommendations.

The CMSAAC Report is responsive to the letter of the WARN Act in that it sets forth the requirements for a reasonable system for the use of CMS for providing warnings and alerts. However, DataFM suggests it would be a serious mistake to rely solely upon CMS for the alert function since a more robust and utilitarian warning system is already available as evidenced by DataFM's own system employing a combination of FM broadcast spectrum and addressable RDS chip technology. For example, there is no mention in the NPRM of a demographic messaging requirement. This is because it is not possible to accomplish with a CMS based system unless such alerts are made on a point to point basis, which is problematic.[5] A CMS based system cannot accomplish demographic messaging on a point to multipoint basis because it requires a consumer addressable receiver which does not appear compatible with the CMSAAC recommedations. In adopting technical standards for a warning and alert system, the Commission should do so in a way that facilitates systems like DataFM's as well as CMS based systems so that

[5]Point to point alerts over CMS must individually transmit to each receiver. Sending thousands of alerts over CMS in that way would cause severe system congestion.

the full capabilities of various systems may be available to the public on an integrated as well as on a stand alone basis.

Indeed, at para. 10 of the NPRM, the Commission asks whether the Radio Broadcast Data System -- which is based on the RDS chip --- can meet its goals for efficient delivery of warnings and alerts. The answer is that not only can the system meet the Commission's goals, it can exceed those goals because RDS offers the ability to provide both geographic and demographic targeting of alerts. DataFM's system is demonstrable proof of this statement. Although the DataFM system currently uses a specially built FM receiver, the technology is adoptable to standard broadcast receivers as well as cellular telephones and other electronic devices. The basic requirements are incorporation of an RDS chip, and a means of programming into the device coding to respond to various classes of messages.[6] Any device with a touch pad would have that capability with minor software modifications. FM receivers could be manufactured to accept alert messages without substantial

[6]DataFM addresses messages similar to the the CAP code methodology used by pagers. The essential difference is the user of the device is capable of programming in the address codes he or she desires to receive. Messages can therefore be delivered to discrete users or groups of users by properly addressing the message. Thus there is the capability for national, regional or local messaging as necessary, as well as demographic messaging. These characteristics make the system flexible and controlled. DataFM has also implemented a uniform addressing system for a national system. For example all Hospitals have the ending address number 06. Therefore for example, all hospitals in Fulton County, Georgia, can be contacted by addressing them as 911-4206. 911 is its emergency warning government notification prefix.

additional cost, given that most new car radios are equipped with the RDS chip for information display purposes.[7]

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[7]The CMSAAC recommendations essentially provide for a gateway for information distribution using the CAP protocol. The CAP protocol is a web page which allows text that is organized in a standard method to be grabbed from the site and then distributed by different distribution methods, e.g., paging, cell text and Internet. DataFM is a *fact distribution* system not a *fact gathering* system. DataFM's interest is thus in assuring that it can access the emergency notifications which will be provided by the CMS system and forward them to its users. The system provides the opportunity to address messages to a specific location or group of people (down to the individual household). This passive system does not require the user to have his or her radio or TV set turned on to receive emergency alerts - particularly important for nighttime emergencies when users frequently

ignore the sound of their cell phones even if they are turned on.

As the Commission notes, use of RDS would create a universal system without the need to build out new infrastructure. The standard for distribution is already adopted, the chips are already available and are designed for input into other devices. The DataFM addressability could be in all the devices with a software solution if the chip is allowed or required to be placed in devices such as cellular telephones, home telephones, pagers, automobile radios, televisions, and computers.

Turning to the NPRM's specific inquiries, DataFM has the following comments. CMSAAC proposes (NPRM at para. 13) using a central national location (server) to route information for warnings and alerts. This is proposed for even local warnings. A national system controlling local warning is problematic. If the national warning center should be taken out of service for some reason, for example, a catastrophic terrorist attack or weather calamity, it would disable the warning system for the entire nation. Moreover, warnings should come from the most local level where authorities are on scene. For example it would make no sense for officials in Washington, D.C. to be directing warnings for a chemical spill in Laramie, Wyoming. Rather, a distributive system should be employed based on national, state and local warning centers.[8]

[8]Although not directly raised in the NPRM the advisability of some method of

The NPRM at para. 14 asks about the use of CAP as a general, system wide CMAS interface. DataFM supports the use of CAP. The EAS system uses CAP. DataFM sees benefits from the warning system and EAS both using the same protocol. Moreover, DataFM's system is compatible with CAP as well.

The NPRM at para. 15 seeks comment on the 90 characters limit for alerts suggested by CMSAAC. The DataFM system is a totally text system and stores up to 16,000 characters, which is about the same as the Wall Street Journal front page.

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verification that messages are received bears discussion. Although this is advisable for point to point calls like the reverse dialing systems commonly referred to as "Reverse 911" because the system will not know who it has contacted, nevertheless a system that tries to notify hundreds, thousands or millions of cell phones and then tries to confirm delivery of the message within a matter of minutes is simply not possible. That amount of message traffic would hopelessly clog the system. A system similar to DataFM's -- which uses point to multipoint communications -- will reach more people with timely and correct information. The DataFM system obviates the need for verification since the nature of the broadcast technology assures the receiver will receive the information. Nevertheless, the DataFM system can be configured to allow the receiver to send an message back to the system.

It is therefore capable of substantially more than the 90 character limit CMSAAC suggests. Unfortunately, the least robust technology would appear to drive the alert system since it might be overloaded by the message capability that DataFM readily can handle.

DataFM has no objection to the tri-level message classification scheme CMSAAC proposes. *See* NPRM at para. 16. It would appear to be a reasonable classification scheme. Data FM similarly agrees that providers should support, at minimum, a common text based message format across multiple service platforms. NPRM at para. 17. DataFM is not so sure that the elements of a warning message should be limited to (1) type of event, (2) area affected, (3) recommended action, (4) expiration time with time zone and (5) sending agency. Although these elements are likely to be a part of any emergency warning message, it is not clear that these would be the only necessary elements. In DataFM's experience a one size fits all approach can be dangerous. An emergency message system should be sufficiently flexibility to handle any variety of emergency message, some of which may not fit neatly in the contemplated mold. DataFM further supports the recommendation for automatic generation of alerts from CAP fields, SAME codes and free form text, but would allow all messages to be generated in free text as well. *See* NPRM at para. 19. Again, the message alert system should be as flexible as possible to allow it to

respond to any type of emergency situation. The DataFM system, for example, has no limits on message expression.

At para. 20 the NPRM seeks comment on the inclusion of telephone numbers, URLs, etc. in alert messages. As the NPRM points out, this is potentially problematic since CMS and PSTN exchanges will likely be flooded with calls in a crisis as was aptly shown on September 11, 2001. The goal should be the fashioning of an alerting message which provides all information the recipient needs to take appropriate action.[9]

At para. 21, the NPRM inquires concerning the geographic precision required for the alert system. This gets to the heart of the basic shortcoming of the proposed alert system. It relies on geographic based distribution, rather than on a demographic based distribution scheme. A system such as DataFM's has the capability to reach those persons needing to know of an event with the information they need to know. For example, the DataFM system can target every law enforcement agency in an area, or across the country. As illustrated above, it can and has contacted every public school in Atlanta to issue an emergency warning. In the Atlanta school example, the DataFM system could notify every school or simply every elementary school, or a group of classrooms or a single specific classroom,

[9]This aptly illustrates why a 90 character limit on alert messages is

depending on the circumstance. Moreover, unlike the proposed alerting system, the DataFM system can target specific geographic areas without regard to the location of its transmitters. This is because the DataFM system alerts specific receivers based upon pre-programmed protocols. This has the added advantage that the system can be used for alerts of a confidential or classified nature, unlike the proposed CMS based system.

At para. 23, the NPRM inquires concerning provision for persons with disabilities and the elderly, including use of an audio attention signal for the blind and a common vibration cadence for the deaf. DataFM supports these recommendation. It currently has equipment for text to speech for the blind and strobe light warnings for the deaf and would employ audio alerts and vibration alerts for portable devices.

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questionable.

At para 24, the NPRM seeks comment concerning transmission of alerts in languages other than English and notes that CMSAAC suggests issues exist with concurrent transmission of alerts in different languages. Again, this points out the weakness of a system which cannot address the specific needs of message recipients. The DataFM system supports transmission of alerts in multiple languages and does not suffer from potential latency issues because it is a point to multipoint, not a point to point system and because a DataFM receiver displays only the messages meant for that recipient.[10]

The NPRM asks for comments concerning point of sale transactions and consumer notifications with respect to the issue of whether CMS providers participate in the system. In DataFM's view, these issues miss the point. Consumers should have the utility that the addressable RDS technology can provide. DataFM recommends that the Commission require all new cellular telephones to be equipped with a programmable RDS chip so that the user may

[10]It is merely necessary for persons desiring foreign language notifications, to program the proper code into their receiver.

benefit from a more robust emergency notification system than that contemplated by the CMSAAC recommendations and at the same time not encumber the cellular network, which has proven to become overly congested and hence unavailable during emergencies.

At para. 38, the NPRM points out that Section 602(b)((2)(c) prohibits CMS providers from charging for the capability or transmission of warning messages. This is an unfortunate disincentive for providers to participate in the system and will likely result in many carriers declining to do so. Requiring an RDS chip in each new cell phone will give consumers a second chance to enjoy the benefits of the warning/alert system. In addition, with RDS, the recipient of the message does not get charged for the message -- at least not in DataFM's system.

At paras 39-40, the NPRM discusses WARN Act Section 602(c) which requires non-commercial educational and public broadcast stations to install equipment and technologies on and as part of any television broadcast signal to enable the distribution of geographically targeted alerts. The NPRM asks whether this system is the same as the Digital Emergency Alert System ("DEAS"), whether this section applies only to non-commercial television stations, and how this system would interface with the CMS based system.

DataFM has two points relevant to this issue. First, the DEAS system has no demographic addressability feature and can only make information available on a broadcast basis. It therefore suffers the same utility deficit that the CMS based system suffers. Yet, the point to multipoint potential of the DEAS system gives it the capability to distribute demographic based messages if properly configured and addressed to an appropriate receiver. Second, in DataFM's view, Section 602(c) should not be read narrowly to apply only to non-commercial television broadcast stations. Had Congress only intended the statute to apply to non-commercial television broadcast stations, it presumably would have said so. The public interest favors the widest possible dissemination of warnings and alerts. Given that, it would be more appropriate to read the statute consistent with the requirement that all non-commercial educational and public broadcast stations should employ equipment and technologies to facilitate warning and alert messaging. In DataFM's view, the Commission should require any non-commercial educational or public broadcast station which receives a request to install equipment and/or technologies for the distribution of warnings and alerts to do so unless doing so would interfere with its broadcast signal.

IV. Conclusion.

In sum, DataFM supports the bulk of the recommendations of the CMSAAC. However, DataFM notes that there are drawbacks to reliance upon a warning alert system based solely upon CMS. With the existing national FM infrastructure in place, a system such as DataFM's can establish a national warning canopy extremely cost effectively with greater utility than the proposed CMS system. That system is already in operation in the Carribean and in the state of Georgia. Technical protocols for the CMS system should be adopted which integrate and are compatible with DataFM's system and other similar warning and alert systems.

Respectfully submitted

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